

Journal
Oct 1881



Itinerary of the trip from Capt. J. G. Bourke's note-book:

- Oct. 1. Whipple to Verde 42 miles Verde to Clear Creek 6 miles, total 48 miles.
- " 2 Clear Tanks 15 m.
- " 3 Spring under Baker's Butte (Pine Cr.) 15 m. Bear killed.
- " 4 To General Springs 12 m.
- " 5 To a Ravine in Mogollons 23 m.
- " 6 To head of a Fork of Canon Creek 16 m.
- " 7 To fork of Canon Creek, coming in from E. 16 m.
- " 8 To Abreu Creek 21 m.
- " 9 To Carrizo Creek 16 m.
- " 10 To Forestdale 20 m.
- " 11 To Mail-road 16 to 18 m.
- " 12 To Apache 14 m.
- " 13 At Apache.
- " 14 Black River 20 m.
- " 15 Camp Henry (air Creek) 23 m.
- " 16 Gila River 18 m.
- " 17 San Carlos 13 m.
- " 18 At San Carlos.
- " 19 Coyote Springs 15 m.
- " 20 Wheat Fields 24 m.
- " 21 "Mesquite Springs", 21 m.
- " 22 Yavapai Creek 21 m.
- " 23 Wild Rye, 23 to 24 m.
- " 24 Pine Creek 21 to 22 m.
- " 25 Fossil Creek 14 m.
- " 26 Verde 18 to 20 m.
- " 27 Whipple 42 m.

Notes on the Natural History of the Expedition
conducted by
Brig. Genl. George A. Crook, U. S. A.,
Commanding the Dept't of Arizona,
from Whipple Barracks, Prescott, A. J. S., to San
Carlos Indian Agency, via Forest Dale and
Fort Apache, and thence back to Whipple Barracks,
via Globe City, Fossil Creek, etc., between the dates
of October 1st and October 27th, inclusive, 1884.

By
Edgar H. Mearns,
1st Asst. Adj't Surgeon, U. S. A.,
Surgeon and Naturalist of the Expedition.

for his services until time came to leave Fort Verde on October 1st. The following extract from my official report as Medical Officer, will give a general idea of the Expedition and region traversed:

"October 1st, 1884.

"The command, consisting of Brigadier General George A. Crook, Commanding Dept. of Arizona, Capt. F. H. Bowe
2nd Cavalry, A. A. Ins. Gen., Capt. G. S. Roberts 17th Inf., U. S.
3rd Cavalry, Capt. G. Russell 3rd Cavalry, with Asstⁿ Surgeon E. L.
M. C., Capt. H. Russell 3rd Cavalry, with Asstⁿ Surgeon E. L.
M. C., and as Medical Officer to General H. Carrington, 8th Inf.
Cavalry, Hospital Steward, 3rd Class and 30 Enlisted men of Cavalry,
3rd Cavalry, with a full pack train, left Fort Verde, and
marched to Clear Creek, seven miles. Oct. 2nd, marched to
Mud Tanks, sixteen miles. October 3rd, marched to Water's Butte,
sixteen miles. October 4th, marched to General's Springs, twelve
miles. October 5th, marched to Mosquito Creek, twenty-two miles.
October 6th, marched to Red Tanks, twenty-three miles, and were
joined by the Fort Apache pack train loaded with grain for the
command. October 7th, marched to Fort Apache Creek,
seventeen miles. October 8th, marched to the Lebec, twenty miles.
October 9th, marched to Carrizo Creek, eighteen miles. October
10th, marched to Forest Dale, twenty miles. October 11th, marched
to Apache Cross Roads, eighteen miles. October 12th, marched to
Fort Apache, fourteen miles, and left the Apache pack train. October
14th, were joined by the San Carlos pack train, and marched to
Black River, twenty-two miles. October 15th, marched to Ash
Creek [Camp Hartig], twenty-seven miles. October 16th, marched to
the Gila River, twenty-three miles. October 17th, marched to
the San Carlos Indian Agency, twelve miles, and left the San
Carlos pack train. October 18th, marched to Coyle Spring S.,
sixteen miles. October 20th, marched to the Wheatfield, twenty
eight. October 21st, marched to Salt River, sixteen miles. October
22nd, marched to Sonoto Creek, twenty-two miles. October 23rd,
marched to Upper Wild Rye, twenty-six miles. October 24th, marched
to the Natural Bridge, twenty-five miles. October 25th, marched
to Fossil Creek, twenty miles. October 26th, marched to Fort
Verde, twenty miles [where I returned to my proper station
and duties as Post Surgeon]. Total distance travelled [to
Fort Verde] four hundred and fifty-seven (457) miles."

On October 27th, the General's party returned to Whipple Barracks, forty-two miles, and I travelled back twenty miles
on yesterday's trail after a Mule Deer which General Crook
shot and the packers failed to bring in, and returned to
Verde the same night, having ridden forty miles.

October 1st. After dining at Capt. Russell's we marched
to Clear Creek. The ladies of Fort Verde accompanied the
command in the post ambulance. Mrs. Russell and Mrs.
Meares and daughter spent the night in camp on Clear Creek,
and returned to Verde after breakfast in Capt. Crook's ambulance.

The only birds seen were:

1. *Hirundo erythrogaster*.
2. *Corvus corax carinatus*.
3. *Sayornis sayi*.
4. *Chimarralut arizonae*.
5. *Cathartes aura*.

The only mammals seen were:

1. *Lepus sylvaticus arizonae*.
2. *Ovis canadensis texensis*.
3. *Tamias harrisii*.

October 2nd. - Marched to Mud Tanks. The trail ran along
Clear Creek for a mile or two. The stream is bordered
with sycamores (*Platanus*), cottonwoods, and a "wick-ash"
which resembles in appearance the beech-tree, and "box
elder" very like the maple. Large masses of grapevine
grow over the trees and are loaded with grapes. There
are some Aztec ruins along the bank of Clear Creek which
we passed by. Fishes are abundant. Also a turtle and a frog.

After leaving Clear Creek the trail marched lay over
a rough *mala pata* (- bad country) road over a range
of mountains to a level plateau. There were some
scattered cedars and occasional patches of scrub oaks,
and greasewood. On the top of the mesa we passed
through two groves of cedar, in which were found
some Woodhouse's Jays and other birds.

At Mud Tanks, where we encamped, there is a fine
grove of large pine-trees, the first seen on the trip.
The best firs were seen on the hills and ridges.

The birds seen were:

1. *Lathrotriccus inornatus*.
 2. *Pitta carolinensis acutata*.
 3. *Salpinctes obsoletus*.
 4. *Lanius ludovicianus excubitorides*.
 5. *Carpodacus frontalis*.
 6. *Pooecetes gramineus confinis*.
 7. *Eremophila alpestris*.
 8. *Zonotrichia leucophrys*.
 9. *Pipilo alboreo*.
- Plain Titmouse.
Hawker-billed Nuthatch.
Rock Wren.
White-rumped Shrike.
House Finch.
Western Grass Finch.
Shore Lark.
White-crowned Sparrow.
Albert's Towhee.

Oct. 16, 1911 - Continued.

10. *Pipilo maculatus*, migellus. - Burned Yuccas.

11. *Sturnella socialis arizonae*. - Western Chipping Sparrow
Common all along the route.

12. Pooecetes. - A number were seen among the scrub oaks on
the hillsides. - They have "tufts." They usually
retreat to the interior of a bush at your approach,
and do not take to flight until you are close upon
them, when they suddenly alight on the top of
a scrub oak, and drop down into the bushes
again when approached.

13. *Archeloeyra woodhousei*. - Woodhouse's Flycatcher.

A few among the cedars, and at camp, in the oaks.

14. *Symploctes cyanocephala*. - Marivilians Nuthatches;
Pine Fly. - Several flocks were seen along the route;

15. *Cornix leucorhyncha canadensis*. - American Raven. - A few
scattered along the��的 roads - especially.

16. *Pica pica*. - Drayton's Plover. - A few on Clear Creek.

17. *Picus scalaris*. - Texas Drinker. - In *Quercus rubra* on Bluff Creek.

18. *Picus millesius harrisii*. - Harris's Wooddrinker. - We saw
in the pines where we made our second camp.

19. *Colaptes auratus mexicanus*. - Red-shafted Flicker.
Camp B among the pines.

21. *Mexicanus formicivorus*. - Californian Woodpecker.
Not seen until we reached Camp B, where we
first found the birds. Then it was abundant.

22. *Myiodes amoenus torquatus*. - Lewis's Woodpecker. - Several
seen scattered on the road west of Clear
Creek. - I have never met with this splendid bird.

23. *Pandion haliaetus carolinensis*. - American Osprey;
Fish Hawk. - On our Clear Creek.

24. *Buteo borealis calurus*. - Western Red-tail Hawk.
Several pairs.

25. *Accipiter cooperii*. - Cooper's Hawk. - Several seen.

26. *Accipiter fasciatus*. - Sharp-shinned Hawk. - Several seen.

27. *Furnarius chrysophrys*. - Sparrow Hawk. - Several seen.

28. *Zenaidura galbula*. - - A pair seen on a rock, about
half-way to Camp B. - Shot nine.

29. *Cyrtonyx maculata*. - Vilassera Quail. A flock of
these was flushed by the Cavalry escort
from the road, near the head of Clear Creek.
I accidentally flushed one of the scattered
birds which flew up behind the bulk
mass, and afterwards two more, each of

October 3.

5. Sturnus vulgaris inornatus. This is sitkensis. Uncommon.
 6. Parabuteo leucopterus frontalis. House Finch.
 7. Strepera sociabilis nigromaculata. Western Gull-billed Starling.
 8. Gymnoderma hypoleucum hypoleucum. Maximilians Jay. Large flocks were flying about before daylight, uttering their loud, blarneying cry. They were very abundant in the vicinity of the ranch, doubtless coming there in search of water. They alight with difficulty, but, like the jay, springing from the ground, coming to rest. Occasionally a few would drop out of the raucous as they descended over the pine tops; but they were too wary to be easily shot.
 9. Corvus frugilegus. Common raven. Large flocks were seen just at daylight, and smaller swifter flocks remained about camp for long, and stayed.
 10. Corvus corax carniarius. The American Raven was seen now, and came about camp after the dark left to pick up the carionites. They were quite bold and unafraid, not to fear the sound of the gun.
 11. Scoteocerca cyanoptera. Northern Blackbird. A flock at camp, reward of the bird-hunting Indians.
 12. Picus villosus harrisi. Harris's Woodpecker was common enough among the pines.
 13. Coccyzus americanus mississippiensis. A number seen.
 14. Buteo borealis calurus. Western Red-tail. Common. Very few rags were seen after leaving Camp 2; and the last Woodhouse's Jay was seen at Camp 3, the last Thraupis before we got back to Camp 3 at Mud Tanks.
- After leaving Mud Tanks, the following-named species of Birds were seen en route to camp at Baker's Butte:
1. Psarocolius mexicanus. Californian Tropicbird. Common.
 2. Trochilus inornatus. Plain Hummingbird.
 3. Pitta pygmaea. A few among the pines.
 4. Pitta cinnamomea acutipennis. Slender-billed Nuthatch. This species was common; more so than the Flying Nuthatch.
 5. Astragalinus psaltria psaltria. Green-backed Goldfinch.
 6. Pooecetes gramineus confinis. Western Linnet Finch.
 7. Zenaidura leucocephala. White-crowned Sparrow.
 8. Junco dorsalis. Red-backed Snowbird. This strikingly colored snowbird was here not with near Baker's

October 3rd.

- Butte) for the first time. It is the handsomest species of the genus Pooecetes!
9. Corvus corax carniarius. American Raven. Scarce.
 10. Cyanocitta stelleri macrolopha. Long-crested Jay.
 11. Gymnoderma cyanocephala. Maximilians Jay.
 12. Picus villosus harrisi. Harris's Woodpecker. Common.
 13. Melanerpes formicivorus. California Woodpecker.
 14. Asyndesmus torquatus. Lewis's Woodpecker. In the open pine woods, these Woodpecker's were sporting in a肆uous manner, chasing each other from one dry pine-top to another and dodging each other about the trunk of a tree. They occasionally alighted upon the ground after the manner of Colaptes. The appearance of these birds when flying is quite remarkable as well as unique. Its great size and peculiar habit of holding its wings together with the abbreviated tail contribute to the peculiarity of its appearance during flight. It perhaps resembles, if any other species, the Fog Creeper (Ochthoecus bimaculatus). They are quite as noisy and talkative as the Flicker, and even more loquacious. When perching on a branch they sit erect, and look much like Flycatchers as Woodpeckers.
 15. Meleagris gallopavo. Mexican Turkey. Sergeant Martin shot a hen from a large flock after we reached camp near Baker's Butte. These were the first Turkeys seen on the trip.
 16. Columba fasciata. Band-tailed Pigeon. I flushed a pair from the ground beneath some oak-trees, where they were eating acorns. Capt. Roberts also saw one pair. They were wild and alighted in the tallest pines, and could not be secured. I never saw this large and beautiful Pigeon alive before. They make a loud flapping sound when they take to flight.
 17. Falco columbarius. One was shot from my horse in the thickest pine woods. Hitherto I have found the Pigeon Hawk extremely scarce in Arizona.
 18. Accipiter fasciatus. Sharp-shinned Hawk. Several were seen.
 19. Buteo borealis calurus. Western Red-tail. Common.

October 3rd.

8. The objection to rapid marching in a field - visiting and observation is first nearly everything that is small, inconspicuous or shy is almost certain to be overlooked. My horse pleases me, however, of bullet shooting from his back basket and said that he stands very well, and that I am even able to kill birds on the wing from his back. He is a lean cadaverous beast, but with ease I like to bring him through. His good qualities are, on cases faint and starting his will. He is the mate to my steers, worse and his attachment for that animal is so great that I can slip off anywhere and he will stay with the Steers until I come back.

The following Mammals were the only ones seen, viz:

Sciurus Aberti. Abert's Pine Squirrel. To Captain Donald Russell belongs the honor of first adding this species to the list of Mammals seen on the trip. The Captain saw the first Abert's Squirrel among the pines soon after we got into the pine forest. I have not seen this species alive yet; but we expect to find them to-morrow.

Lepus callotis texianus. Northern Jackass Hare. Before we reached the edge of the pine forest, after crossing the isolated grove of magnificent pine trees at Mud Tanks, we passed through a belt of grassy country with many "cedars" and junipers upon the ridge and higher ground, and here we found the only Jack Rabbits seen on to-day's march.

3. *Oreamos americanus*. Mule Deer; Black-tailed Deer. Several small bands of single deer were seen by our party along the line of to-day's march.

4. *Thomomys talpoides undulatus*. Southern Pocket Gopher. This singular, subterranean animal appears to specially delight in the loose rich soil beneath the pine needles, and the abundance of their mounts and burrows attests their abundance everywhere in the pine woods. We have not yet been able to procure any specimens, being unprovided with proper traps.

5. *Ursus americanus*. Brown Bear. General Crook shot a full-grown male, the first one I have ever seen. He shot it a few miles from our last camp at Mud Tanks. His first shot broke its fore leg high up. The Bear was running at the time, and the shot aimed at just behind the shoulder. A second shot through his head finished him. The General built a fire to mark the place and the packers went after the

October 3rd.

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bear with a kick-shovel; but, after they had blindfolded the mule and tied the bear on the saddle, the mule took flight, got away from them and took to the forest and was lost. By tracing the mule the packers found where the bear had been gotten off. A second mule was then sent back, but was likewise unmanageable and the men then killed the bear and brought only the skin and hind quarters in to camp, where they did not arrive until late at night. I was very sorry to lose this opportunity of procuring a fine adult skull of this mammoth quadruped - the largest game found in this region with the exception of the Elk which is still found in considerable numbers in the high mountains of Arizona, and in less numbers in the San Francisco range.

Specimens collected:-

No. 3364. *Aegithes torquatus*. Lewis's Woodpecker. ♂ ad.

Presented to Captain C. S. Roberts.

No. 3365. *Falco columbarius*. Pigeon Hawk. ♀ juv.

Shot near Camp 3, near Baker's Butte. 322; 685; 220; 148; cere and culmen, 18; cere, 4.5; culmen, 14.5; tarsus, 41; middle toe and claw, 46; claw alone, 12; gape, 2.0. Cere, iris skin around eye and base of bill greenish-yellow. Bill, greenish-blue at base, plumbeous-black at tip. Tarsi, skin set, greenish-yellow. Claws, blue-black. Fries, dark hazel.

No. 3366. *Accipiter fasciatus*. Sharp-skinned Hawk. ♀ juv.

Shot at Camp 2, in the act of killing Brewer's Blackbird. 340; 640; 210; 178; cere and culmen, 18.5; cere, 8.5; culmen, 12; gape, 18.5; tarsus, 55; middle toe and claw, 43; claw, 11.5. Cere, sap-green. Bill, with maxilla blue laterally at base and mandible blue at base; residue plumbeous-black. Tarsi, greenish-yellow; feet, lemon-yellow. Claws, blackish. Fries, yellow.

No. 3367. *Pyrrhula hepatica*. Liver-colored Tanager. ♂ ad.

Irides, hazel. Bill, with maxilla and tip of mandible, blackish; residue of mandible, bluish. Tarsi and feet, dusky-plumbeous; claws, blackish. Shot at Mud Tanks. 209; 330; 105; 91; cul., 18; gape, 21; tarsus, 25; middle toe and claw, 23; claw, 7.

No. 3368. *Corvus frugivorus* ♂ (ad.) moulted. Irides, dark hazel.

Bill, tarsi, feet and claws, black. 485; 970; 327; 213; culmen, 42; gape, 51; tarsus, 56;

October 4th.

middle toe and claw, 52; claw, 14. Shot at Mud Banks.
No. 3369. *Aegialodessus torquatus* ad. Lewis's Woodpecker.
Shot at Camp 2 (Mud Banks). The first one I ever killed!
Bill, plumbeous-black, grayish at base of mandible.
Tarsus and feet, plumbeous-gray; claws, plumbeous-
black, slightly brownish at base. (280; 535; 172; 110;
culmen, 30.5; gape, 36; tarsus, 25; middle toe and
claw, 30; claw alone, 11.

No. 3370. *Aegialodessus torquatus*. Lewis's Woodpecker.
282; 520; 167; 128; culmen, 27; gape, 33; tarsus, 24;
claw, 30; claw alone, 11. Colors as above.

October 4th 1884. Left camp near Baker's Butte at daylight, and marched to General Springs, 12 miles. We left our camp at a spring down in a deep ravine, and for some miles found the road to be a gradual ascent, with occasional hills to climb. We had scarcely got well on the road when Captain Russell, who rode next behind the General, came upon a large flock of Larks in the road, and shot a fine one forth his rifle. He rode ahead while he was hunting the Larks, and my steward and Private Hobart, my slacker, and turned off to the left into the wood. We followed horses and started out for a sunken basin. The place was very rolling, with many deep ravines that intersected each other, and I soon became aware that I was lost. The dry, moist valleys were grown up with tall braches and ferns and the vegetation was very interesting and new to me. In a sick, narrow ravine growing up to Spruce, a tree which I saw for the first time, were some handsome low maples (*Acer*) whose leaves were as richly tinted with red and yellow as the maples in New York late in autumn. The principal timber is the splendid yellow pine, growing a hundred or more feet in height, with straight trunks. I saw the first Pine Squirrel (*Sciurus aberti*) among them. It was running about the grassy turf when I saw it first, and then ran up a tall pine where I shot my first specimen. Birds here common in these valleys, but the number of different species rather small. Beneath the spruce trees, I discovered a species of Rattlesnake Plantain (*Goodyera*), of which was the first *Orechia* seen in the trip. - Varmers of Chipmunks were climbing upon logs and stones and some in oak trees. They were

October 4th.

of a quiet, new to me, and one that I had not expect to meet with, i.e., *Peromyscus quadrivittatus*, the Rocky Mountain chipmunk. On the rocky knolls I found beautiful ferns and many other interesting plants such as the cupinaria reione. The day was cloudy, and, not being able to see the sun, I had no idea in which direction to strike out for the trail; so I passed myself with looking for specimens, and at length came upon a herd of Elk, which was a stirring sight; but I did not get quite close enough to kill one with my shotgun. Then the sun shone out, and I soon struck the trail; but the day was far spent and there was a long way from my horse and tent to camp. Back and then return after the same trail with scarcely the same degree of difficulty as before. Flocks of Lewis's Woodpeckers, Hood Pigeons and hundreds of Long-tailed Jays were just as I trotted steadily over a trail where I would have difficulty to move a rod. I then came to an open space to the west of the trail, and riding out into it beheld one of the grandest, most exquisite scenes that could be imagined: a round basin upon the very verge of the high line rock of Yonto Basin, and looking down from the top of the granite wall of rock, a hundred times higher than the great wall of Elsin, which shutteth in this beautiful basin. As far as the eye could reach the mountain side forest, open and rock-like, with little patches of greenward stretched out in gentle undulation, the inequalities in elevation being apparent even looking down from above. At the middle and upper portion were small spruce trees in company a panorma so exquisite in its completeness, so naturally beautiful, and so delightfully solitary and lonely, that I stood entranced until disturbed by the sight of a Peregrine Falcon (*Falco sparverius pacificus*) which settled upon a dead pine-top. So close as the nature of the locality allowed, and like a shot, but without a gun, two birds were located at the Falcon began swooping away and alighted upon another pine. Once alighted to take flight it, and saw immediately after shooting that the bird would have fallen down had it not alighted before striking the side-wall and would have been crushed. From this time on travel along the rim rock for several days, lighting the top of the circular basin at times the trail run a considerable distance from the wall and again would come upright upon someutting point,

will stand up above the surface of the soil. Saw one.

To the left of the trail a series of ravines descended from the slopes, all cut several species of deciduous trees, underbrush and herbage more, in striking contrast to the pine, pine woods. These will be here for a while. The first, fairly narrow, gradually broadened with the growing vegetation, I discovered a second, the third and so on in the shape of a wedge. It is the Mountain Chickadee (Poecile occidentalis breweri).

A clear general chirping, I justed a long who and went down a large plot of undergrowth, but I could not hear it. Then a Chaffinch, Brown-headed Cowbird, Western Towhee, Pine Grosbeak and Steller's Jay passed in the last hour. The General's Peep-shrike.

The only mammals seen to-night were:

1. Canis latrans, Say, Prairie Wolf; coyote.

2. Dendroica occidentalis breweri. Brewster's Chickadee. A full-grown bird at the head of a thick wooded ravine, such as I have already described ~~here~~, and after making several little stops, heard a loud crackling sound coming along the bottom like a bear walking over dry branches. I soon discovered, however, that the sound was caused by one of those squirrels intently engaged in gnawing cedar boughs. Many resinous cedar-trees near-by, and a squirrel brought the whole pile up to bay, and, on going forward to pick up the new game found an immense break of forces upon the ground beneath the tree in which it had shot. I secured a second specimen in another similar ravine, and Captain Roberts killed another which was too badly wounded to fly away, having an accidental shot through its back.

3. Perisoreus canescens. I saw one, the young male pincered; but George Cook shot two in one night, the last night he shot.

4. Cathartes strigatus macrourus. Common in the hills about Baker's Butte. The chip-in like the eastern Chipmunk a good deal, and second good-sized oak for food as I have seen the Eastern Chipmunk do in summer. Fairly numerous in the ground beneath stones or at the root of a tree. The single specimen shot was nailed up an oak-tree.

5. Cervus macrotis, Say. Blue-tailed Deer, Desert-tailed Deer.

I saw a band of Deer in a ravine near Baker's Butte, and a number were seen by our party. A stag I mentioned back bounded around the ravine behind me and stood like a statue at the top until the rest of the band were out of the ravine when they all sang off together.

6. Tromomys leucopus amoenus. Prairie pocket Gopher.

Order - The following species were found, viz.:

1. Sialia mexicana. Californian Bluebird. Abundant, the migration in progress took in the tops of the hills, and was visible beyond the general forest border.

2. Regulus calendula. - Abundant. Ruby-crowned Kinglet.

3. Picus montanus. - Abundant. The Rocky Mountain Chickadee is the most common species, unless it be the ubiquitous Pinyon Nut-hatch. Its note resembles that of Picus atricapillus in the East, but it has a whining sound like that of the Brown Creeper (Certhia familiaris). Indeed I noted herring heard the Creeper in my note-book, before I became aware that this Chickadee has a note so like it. They are as lively and unconscious as the Eastern Chickadee.

4. Nitta carolinensis aculeata. Slender-billed Nuthatch. Very common, but less so than the Pinyon Nut-hatch.

5. Nitta pygmaea. - These little sparrowines are so exceedingly social as well as volatile, and their notes are such an indescribable medley that I shall not attempt to describe them, except to say that they are totally different from the notes of the other Arizona species, viz.: N. ruficollis or canadensis.

6. Pediocetes obscurus. Rock Wren. Only one at our camp at Ethereal Pines where there are some rocks such as this species delights to live upon.

7. Dendroica auduboni. Audubon's Warbler. Quite plentiful. The first seen since last spring were observed shortly after leaving camp at Baker's Butte. Their habits closely resemble those of Dendroca coronata. It is an expert flycatcher, and is fond of fruit and berries as well.

8. Junco formosus. Red-backed Snowbird. Very common. Its dark note is like the other Junco's.

9. Lymnocitta cyanoleuca. Maximilian's Jay. A number of flocks were seen and heard all the way between camps.

10. Cyanocitta stelleri macroura. Long-eared Jay. Very abundant and vociferous.

11. Picoides villosus hamisi. Harris's Woodpecker.

Very abundant. Its notes like those of P. villosus.

12. Melanerpes formicivorus. Californian Wood-pecker. Abundant.

13. Aegyptiacurus torquatus. Lewis's Woodpecker. It may not have been, mostly flying.

14. Colaptes auratus americanus. Red-shafted Flicker. Rather common near the edge of the pine-rock, but less so were the road leaves the Basin.

October 4th.15. *Buteo virginianus*.One seen at 6th. Butte at daylight.

Horned Owl.

16. *Falco columbarius*. Pigeon Hawk.17. *Falco sparverius naevius*. Gregorian Falcon. One was shot at, with a gun, the last day of Octo. Boston.18. *Viniperulus sparverius*. Northern Hawk.19. *Falco sparverius*. Sharp-shinned Hawk.20. *Buteo swainsoni*. Swainson's Hawk. Was found dead at General Springs.21. *Turdo borealis calurus*. Western Red-tail Hawk.22. *Melagris gallopavo*, Grinn. Mexican Turkey. Captain Terrell's flock some flock in Colorado more frequent. Least in shotgun with his carbine and would not fly. We said that there were 100 in the flock. A third flock was seen near General Springs, which contained some fine old gobblers.23. *Coccyzus fasciatus*. Band-tailed Pigeon. I saw one bird of this. Other members of our party flushed them from the ground, where they were eating acorns beneath the oaks. These pigeons are as tame, save as the crows, and the Pigeons are chiefly all tame.

Specimens of Birds Collected:-

No. 3371. *Picus villosus harrisi*. Harris's Woodpecker. ♂ ad. 240; L. 24; T. 130; C. 64; Culmen, 82.5; Gape, 33.5; Tarsus, 24; middle toe and claw, 24; Claw, 10.5; middle toe and claw, 24; Claw, 10.5.No. 3372. *Junco dorsalis*. Red-backed Snowbird. ♂ ad. 175; L. 270; T. 82; Culmen, 13; Gape, 14; Tarsus, 22; middle toe and claw, 20; Claw, 6. Feeds, hazel.

Specimens of Mammals Collected:-

No. 133. *Sciurus aberti*, Woodhouse. Abert's Fox Squirrel. ♀ juv.No. 134. *Citellus striatus quadrivittatus*, Rocker. Mountain Chipmunk. ♂ ad. Baker's Butte, Mogollon Mountains.No. 135. *Sciurus nudsonius fremonti*, Fremont's Chickaree. ♂ ad. Between Baker's Butte and General Springs, A. Y.

Dimensions. - Total length, 372. Head and body, 997. Length of nose to eye, 24; ear, 44; occiput, 53; end of snout to stretched hind leg, 312. Tail to end of vertebral, 130; tarsus, 175. Length of manus, 57; longest claw, 7. Length of tail, 45; longest claw, 7. Fore leg, 38. Hind leg, 50. Height of tail from crown, 20; meatus, 24; b. end of tarsus, 22. Between eyes, 26.5. Chest girth, 130. Claws quivering from the edges of "altis".

No. 136. *Sciurus nudsonius semotis*. ♀ ad. Ident. the same as above. Total length, 385. Head and body, 935. Length of nose to eye, 28; ear, 46; occiput, 55; end of snout to hind leg, 325.October 5th.

Tail, 130. Vertebral, 135; tarsus, 180. Length of manus, 35; longest claw, 7. Length of tail, 46; longest claw, 7. Fore leg, 34. Hind leg, 52. Height of tail from crown, 22; fore meatus, 26; greatest breadth, 23. Between eyes, 28. Chest girth, 133. Claws stuck together with spruce gum, from the cones. No. 133, being young, was not measured.

No. 134, presented the following

Dimensions. - Total length, 260. Head and body, 140. Length of nose to eye, 17; ear, 30; occiput, 38; end of snout to stretched hind leg, 240. Tail to end of vertebral, 96; tarsus, 120. Length of manus, 18; longest claw, 8. Length of tail, 45. Fore leg, 34; hind leg, 37. Height of tail from crown, 44; meatus, 17; greatest width, 17. Ear, pointed.

October 5th, 1884. - We left camp at daylight and made our way to a ravine in the Mogollon Mountains, 23 miles. I think the place is called "The Lake Park".The trail lay through fine woods, like a park, with only a few and here & there bushes in confusion, variety and variety of growing vegetation. I saw the shorthorned (Arenaria) and many kinds and species of the family Leguminosae. The woods were very green in damp ravines. In similar cases were scattered fine evergreen trees, a smaller species than the Eastern *Taxodium ascendens*. Near General Springs I saw some gigantic specimens of a species of tree creeks of the genus *Populus*, more than two feet high, and quite thick. The marsh was along the South Bass River-rack for the greater part of the day. The vines obtained from time to time as we came out upon the edge, were as beautiful as ever, although the height was less, and the soil not so good but sloping towards the river, and water with shrubs whose leaves had assumed the deepest autumnal hue, forming a red and yellow mass in to the green center of vines and grass, among which a few oaks and acacias were scattered in occasional patches. As before, a series of spruce hollows, thickly underwood with brushwood turned to the left of our trail.

The following mammals were the only mammals seen:-

1. *Citellus laurus*, Lapp Prairie Dog; female. Having at night.2. *Sciurus aberti*, Baker's Butte, one of which was melanistic. When I came into camp, the Stewart handed me the beautiful specimen with black fur, while the general had given it to me on the road. The back of its head

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bore the mark characteristic of the General's rifle bulletts.
Also, his 3^d cousins, including the General, a some Pied-tailed Pigeons and a Flock of 1000 that in the same manner,
and were find together beside a large pine-tree.

I also shot a fine male Abert's Squirrel. They are sharp and expert at hiding. This one lay close to a horizontal pine branch over the trail, perfectly motionless. I hit it by accident, and, although wise by it, scarcely had certainty whether it was a Squirrel or not. It is, however, well to be certain before I act on it. Another very large Squirrel ran up an unbroken pine of medium size, whence it could not escape without notice and was so tame that the tree was sound and contained no cavities, yet I rode around the tree again and again, examined it close by and far away, and finally fired several shots through the thickest part of the fine undiseased boughs, without wounding the Squirrel, who all along, white, bushy tail, it would run off should hissing him at a glace.

3. Sciurus hudsonius fremonti. Fremont's Chipmunk.
Several were seen, always at the ravines where the aspens and
spruce grow. All were gathering for food the day, cones
of the Pinaceæ (this). No large Squirrels have not
been seen by us in other localities than these ravines, which
are grown with the aspens mentioned above, spruce &
fir. The bright red autumn as the
leaves change, and even in winter it is a rich color. Here
we find also, golden rods with heads as large as the
Eastern Solidago saccharosa, Smilacinae, Gordonia,
and a plant like Smilacina, bearing fruit as large as
raspberries of a vivid scarlet color! big blue elder with
large bunches of pleasant-tasting fruit, and a shrub
with fruitage like the common red huckleberry, but not tasting
at all acid; many small, fine greenish blossoms of
Medicinal (Saxifrage). These birds have a close resemblance
to those of our country and are called Spurred, and are the
resort of numbers of small birds resident the Squirrels
which appear to inhabit here to the exclusion of the
other birds mentioned.

more like pine-woods.
4. Thomomys talpoides amoenus, Southern Pocket Gopher. This is very abundant every where.

5. Cervus macrotis (Guss.). Male Bear. Edward Sare
saw three and General Clegg saw two, from the
abundance of their signs they must be numerous
in the region travelled to.

~~old~~ old new -

Cestobezoar.

1. *Hemispingus unicolor*. Porcupine-tail. Found near General Springs
at 8700 ft. The first bird shot after leaving General Springs
was this, the only one I have ever seen. Shot in the
cottonwood in the pine woods.

2. *Sialia mexicana*. California Bluebird. Common
in pine in the pine woods.

3. *Melanerpes carolinus*. Hubert's Hummer. Common,
especially in the brushy ravines.

4. *Trochilus montanus*. Rocky Mountain Chickadee. Abundant.

5. *Vireo cinnamomeus*. Slender-billed Vireo. " "

6. *Dicaeum igninucha*. Pigmy Naibatch. Very abundant.

7. *Stenothorax melanurus*. Blueboned Hermit. Abundant.

8. *Loxia curvirostra mexicana*. Mexican Crossbill. Several
large flocks flying with much chattering amongst the
fir-trees near the Lake Banks, and at the lake banks.
These were the first I have seen. The colors of the
males appeared to be bright red all over, when seen
against black. I was unable to obtain a shot at them.

9. *Pyrrhula pyrrhula*. Red-faced Grosbeak. Very common.

10. *Spizella breweri cyanoptera*. Brewer's Sparrow. As
we were leaving General Springs a flock visited there; the
only ones seen.

11. *Picicorvus columbianus*. Clark's Nutcracker. I often
saw this near the lake banks to graze our horses, & selected
a particular tree for a long distance,
and was pleased by finding many interesting things
and nothing else to eat. Clarke's Crow, a species
that I never saw before the mountains. The notes were very
near — a loud "hah, hah, hah!", and as a few
of them flew around I shot the greatest one, but
the rest seemed afraid and retreated to some dead trees
on the other side of the ravine, still uttering their
peculiarly harsh hah, hah, hah!, until I fired at
one and wounded it. It escaped, however in the
dense undergrowth in the ravine, and I was unable
to obtain another shot, although the birds were heard
creeping about me, in the tall pine-trees for some
time. One was seen vigorously pecking at and
rubbing its bill against a dead branch. I learned
Dare saw a flock where our horses were grazing
while he was hunting in the ravine. General Crook
heard the call of this species yesterday, before we
reached General Springs, and mentioned the fact
to me; but as I was not positive that the species occurred in

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- This region, I neglected to make a note of it in my journal.
 12. Cathartes aura cyancephala. Maxillary Nutcracker;
 Pinon Jay. Several flocks seen between Camp and General.
 13. Corvus cornix sciuorii macrourus. Long-tailed Mag.
 Very common indeed.

14. Colaptes

One shot in a bush, scarce.

15. Picus leucosceles leucosceles. New Eng. Woodpecker. Abundant.
 16. Sphyrapicus varius nuchalis. Red-headed Woodpecker.
 One shot on a spruce tree, not far from the ground
 where it was hiding. The only one seen.

17. Sphyrapicus thyroideus. Black-breasted Woodpecker.

The only one seen was a fine male, the first that I
 ever saw. It was sitting close to the bark of a big
 pine-tree, where I shot it from my saddle. Flying
 to the bark of a long tree, roosted the first

18. Melanerpes formicivorus. California Woodpecker.

A few seen.

19. Ampelornis torquatus. Lewis's Woodpecker.

A few seen.

20. Colaptes auratus mexicanus. Red-shafted Flicker.

One or two seen.

21. Buteo swainsoni. Swainson's Hawk. A few.22. Buteo coronatus calurus. Western Red-tail. A number
 were seen; and Capt. Roberts shot one, in the dark phase.23. Falco columbarius. Pigeon Hawk. One or two.

24. Falco peregrinus nigerinus. American Peregrine Falcon;
 Duck Hawk. One adult was shot, but fell down
 the cliff into Jonto Basin, where it could not be recovered.
 I killed perfectly dead & would have been able to get it, as
 it was sitting on a dry tree above a wide ledge, but fluttered
 over the edge and was lost.

25. Columba fasciata. Band-tailed Pigeon. I shot my
 first specimen upon the topmost bough of a huge pine.
 It was much injured by falling so great a distance to the
 earth. Others were shot (dead) later by General Creek;
 but they were scarce.

26. Meleagris gallopavo. Mexican Turkey. Captain
 Russel shot a large flock. Several were shot, one,
 and saw a good deal of young. The one shot was young
 and about the size of a hen. He could have shot
 more, but thought them too small to kill. The one
 shot was hit in the back of the head, just as the
 General's Squirrels are always shot.

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Specimens of Mammals shot & preserved:-

- No. 137. Sciurus hudsonius aberti. Fremont's Clueless
 Squirrel. Between General Spring & the Lake Banks, Mogol-
 loran Mountains, Cal. L. Total length, 378; head and body, 210.
 From tip of nose to eye, 22; ear, 45; occiput, 55. Tail, total
 of stretched, 127; hairs, 168. Length of manus, 35; pes, 51.
 Fore leg to carpo-metacarpal joint, 39. Heel to tarso-metacar-
 pal joint, 35. Height from crown, 21; meatus, 26;
 between eyes, 29. Weight, 128. From nose to end of
 stretched hind foot, 30. Longest fore claws, 7; longest hind
 claws, 7. Ears, width, 22. Fleas stuck together with spruce
 gum. Ears, rounded.

- No. 138. Sciurus aberti. Abert's Pine Squirrel. ♀ ad.
 Shot by General George Creek in the Mogollon
 Mountains, between General Springs and the Lake Banks, Cal.
 Total length, 393. Head and body, 293. Tip of nose to end of
 stretched hind foot, 43; to eye, 34; ear, 36; occiput, 71.
 Tail to end of vertebral, 228; hairs, 503. Length of manus, 47;
 of pes, 47. Fore-leg to carpo-metacarpal joint, 36. Hind-leg
 to tarso-metatarsal joint, 38. Height of ear from crown, 35;
 from meatus, 44; pedata, 27. Distance between eyes, 40.

- Chest girth, 180. Longest fore claw, 11. Longest hind claw, 11.
 Ear tufts above tip of ear, 15. This specimen is the only
 Mexican one seen on the trip. I showed the Indian guides
 this one and the next. They said they were the same species,
 although one had a black belly, and the other was pure
 white. Then I asked whether both were common, to
 which the Indian (Peaches) replied, "Yes, both plentiful,"
 but this one pointing to the white-bellied Squirrel "most plentiful".

- No. 139. Sciurus aberti. Abert's Pine Squirrel. ♂ ad.
 Shot by me, in the Mogollon Mountains, between General
 Springs and the Lake Banks, Cal.

- Total length, 350. Head and body, 270. From tip of
 nose to end of stretched hind-leg, 425; to eye, 29; to
 ear, 52; occiput, 49. Tail to carpal epiphyses, 205; hairs, 280.
 Length of manus, 30; of pes, 61. Fore-leg to foot, 56;
 hind-leg, 80. Height of ear from crown, 35; meatus, 44;
 width, 28; ear-tufts, 15 above margin of ear. Distance
 between eyes, 36. Chest girth, 180. Longest fore claw, 10.
 Longest hind claw, 10.5.

Specimens of Birds preserved:-

- No. 3373. Columba fasciata. Band-tailed Pigeon. ♂ ad.
 370; 645; 205; 150; culmen, 17; gape, 25.5; tarsus, 30;
 middle toe and claw, 40; claw, 11. Iris, bright hazel. Bill,

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orange-yellow, with a broad terminal band of black. Bare skin around eye, red. Tarsi and feet, straw-color; claws, black. Crop contained acorns which broke through the skin when it struck the ground in falling. The flesh is excellent food, having a pleasant nutty flavor.

No. 3374. Picicorvus columbianus. Dad. Clarke's Nutcracker. 320; 580; 197; 128; culmen, 42; gape, 46; tarsus, 36; middle toe + cl., 34; claw 13. Iris, brown. Bill, legs, feet and claws, black. Crop filled with seeds of pines.

No. 3375. Thryothorus swainsoni (Vireo) Mountain Hermit Thrush. 195; 324; 108; 80; bill from nostril, 11.5; gape, 23; tarsus, 31; middle toe and claw, 22.5; claw, 5.5. Iris, hazel. Bill, brownish-black; flesh color on base of mandible. Legs, white-color; feet, black; claws, dusky.

No. 3376. Tarsus montanus. Rock Mountain Chickadee. 134; 215; 70; 66; bill from nostril, 11; culmen, 11; gape, 12; tarsus, 19; middle toe and claw, 15; claw, 5.5. Iris, hazel.

No. 3377. Dendroica thyrodeus. Black-breasted Woodpecker. Dad. 234; 420; 136; 100; culmen, 25; gape, 32; tarsus, 24.5; middle toe and claw, 23; claw, 7.5. Iris, reddish-brown. Bill, plumbeous-black; claws, black.

No. 3378. Buteo swainsoni calurus. Western Red-tail. 920; 580; 1360; 420; 260; culmen and cere, 37; cere, 15; culmen 26; tarsus, 78; middle toe and claw, 69; claw, 24; gape, 45. Iris, hazel. Cere and skin at gape, yellow. Bill, garnish blue at base, shading into plumbeous-black towards tip. Legs and feet, yellow; claws, black. Near General Springs

No. 3379. Dendroica varius maculata. Red-rumped Woodpecker. 18 juv. 210; 386; 124; 80; culmen, 21.5; gape, 25; tarsus, 22; middle toe and claw, 23; claw, 9. Shot in a spruce wood in a ravine near the Lake Tanks.

October 6th, 1884. We left camp at Lake Tanks at day-light, and marched to a fork of Canyon Creek, 20 miles (Leahy thinks called it 16 miles and Leahy Russell 23 which latter may be correct in making out the official report.) The region traversed was thickly wooded with pines and a few oaks, with no fir or spruce. We passed a number of low, grassy spots most of which contained a little standing water. Their margins are grown with aspens, whose leaves were changed to bright golden-yellow. In these marshy places I saw the Leopard Frog (Rana

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which is so abundant in the waters of the Colorado, in various habitats of small size, having external gills which never have been degenerate, and could not capture on account of the boggy, marshy situation, into which my horse refused to go.

Mammals. - The only species seen were,

1. Thomomys talpoides sinistrinus. Southern Pocket Gopher.
2. Canis latrans. Prairie Wolf; coyote heard at night.
Note. - The Indians who met us had killed several deer without quieting the Cheeche Pack-Train to our camp at the head of the fork of Canyon Creek where we found them awaiting our arrival, with a cargo of grain for the emigrants. One of the skins was red or rufous instead of being gray like the rest of the deer seen on the trip. It may have been the Condor Deer (Cervus mexicanus) which was nearly as large as the skin of an old doe killed by the Indians. This red deer was Odocoileus canescens.

Birds. - The following were observed viz:

1. Spinus mexicana. California Bluebird. Abundant.
2. Regulus calendula. Ruby-crowned Kinglet.
3. Parus montanus. Rockies Mountain Chickadee.
4. Vitta carolinensis nuchata. Dusky-backed Nuthatch.
5. Sitta pygmaea. Pygmy Nuthatch.
6. Lauda occidentalis. Fairholme Warbler
7. Carduelis cassini. Cassin's Purple Finch. Several flocks were seen, the first of this species that I have ever met with. They were singing pleasantly.
8. Passerina saturata alaudina. Western Sparrow Sparrow. One seen near camp in a little marsh (or "Savanna", whence its name, improperly written "Savannah Sparrow") bordered by aspens and surrounded by pine-trees.

9. Spizella socialis arizonae. Western Chipping Sparrow. A few were seen under the pines, associated with flocks of Red-backed Snowbirds.

10. Junco dorsalis. Red-backed Snowbird. Very abundant.
11. Lanius corax carinatus. American Kestrel. The hair.

12. Lanius excubitor cyanocephala. Maximilian's Nutterack. More than 100. Large flocks were seen along the way, feeding on seeds of the yellow pine (Pinus brachyptera).

13. Cyanocitta stelleri macrolopha. Long-crested Jay. Very common. One note resembles the Blue Jay's (Cyanocitta cristata). Its harshest note sounds as if produced with a tin horn.

14. Zonotrichia leucophrys. White-crowned Sparrow. One seen.

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15. Picus villosus harrisi. Harris's Wood-pecker. Abundant
16. Picus pubescens gairdneri. Gairdner's Wood-pecker.
One was seen and shot, as it was skipping about among
the terminal branches of the pines, much as Pignus
Post-hatch do. This, however, may not be characteristic, I
have never seen this bird since before to-day.

17. Colaptes auratus mexicanus. Red-shafted Flicker.
Scattered along the route.

18. Scotis asio trichopsis. Mexican Screech Owl. One
seen in a cleft of rock, on the rim-rock of Tonto Basin.

19. Falco columbarius. Pigeon Hawk. Several seen.

20. Buteo swainsoni. Swainson's Hawk. One seen.

21. Buteo borealis calurus. Western Red-tail Common.

22. Melocrotis galloianus. Mexican Jack-rabbit. Several
seen. Russell saw a flock.

Specimens of Birds Collected:

- No. 3380. Sitta pygmaea. Pignus Nuthatch. ♂ ad.
Near the Lake Tanks. 110; 198; 2; 38; cul., 14.5; gape, 16.5;
tarsus, 14.5; middle toe and claw, 15.5; claw, 6.

- No. 3381. Cyanocitta stelleri macrolopha. Long-eared
Jay. ♂ ad. Near the Lake Tanks. 302; 458; 143; 133;
culmen, 28; gape, 32.5; tarsus, 43; middle toe and
claw, 32; claw-alone, 7.5. Bill, hazel. Bill, tarsi
and feet, black.

- No. 3382. Cyanocitta stelleri macrolopha. Long-eared
Jay. ♂ ad. Near the head of a fork of Cañon Creek. 311;
310; 475; 143; 143 (ado.); culmen, 28; gape, 33; tarsus, 45;
middle toe and claw, 35; claw, 11. Tarsus as above.

- No. 3383. Picus pubescens gairdneri. Gairdner's Wood-
pecker. ♂ ad. Near the head of a fork of Cañon Creek. A. J.
579; 315; 101; 73; culmen, 18; gape, 22; tarsus, 17;
middle toe and claw, 19; claw, 9. Irides, reddish-brown.

- Bill, plumbeous-black. Tarsi and feet, plumbeous; claws, dusky.

- No. 3384. Carpodacus cassini. Cassin's Purple Finch.
♂ ad. Near head of a fork of Cañon Creek. A. J.
163; 276; 86; 68; culmen, 12; gape, 15; tarsus, 19;
middle toe and claw, 20; claw, 6. Irides, hazel.

- No. 3385. Carpodacus cassini. Cassin's Purple Finch.
♂ ad. Near head of a fork of Cañon Creek, Arizona.
162; 277; 86; 66; culmen, 12.5; gape, 16; tarsus, 20;
middle toe and claw, 20; claw, 6. Irides, hazel.

- No. 3386. Zonotrichia leucophrys. White-crowned
Sparrow; ♂ ad. 170; 256; 81; 79; culmen, 12.5; gape,
13.5; tarsus, 24; ante, 23; claw, 6.5.

October 7th, 1884. - Left camp at daybreak and
marched to a fork of Cañon Creek between Cañon Creek
and Cibicu Creek, fifteen (15) miles. To-day the order
of march changed. It was no longer "go-as-you-please"
for the trail was difficult and we were obliged to keep
the Indian guides in sight. After crossing a belt of
rolling country well timbered with pine and oak we
came to the edge of Tonto Basin where there was
an old Indian trail down which we and our horses
and we were driven in Tonto Basin after a hard
scrabble down the steep rocky side. It was a long
journey! Then we rode through a beautiful country,
clothed with green grass and a scattered growth of
willows until we came to Cañon Creek, a fine large
stream, containing a number of fishes, frogs, and
haunted by Kingfishers (Alcyone alcyone), which were
here first seen on the trip. A Mormon settler had
built a house and owned a lot of stock, beside
the stream where we struck it. Some seal and
Doward's Blackbirds (Laniarius dorsatus et Geothlypis
canionis) were at the road in front of the house
before we came up and watered our horses. As no
further halt was made, I was unable to procure any
of the fishes or batrachians. I rode along the
stream for a few miles and then turned to the left
and crossed some high mts and then descended
again until we reached camp on the "left fork"
of Cañon Creek. Cañon Creek passes into a "box
cañon" in sight of the place where we left it. It is
a very beautiful stream and region.

Material. -

1. Odocoileus macrourus, Say. Mule Deer. The Indian
Guide, Peaches, fired at one at the head of the Cañon.
2. Tamias lateralis var. dorsalis L. Gila Chipmunk.
3. Heteromys talpoides nuttallii. Southern Pocket Gopher;
4. Peromyscus maniculatus. Long-eared Rat.

- Birds. - Sciurus aberti. Abert's Pine Squirrel. Obskt.
On the march to Camp 7 the following named were seen:
1. Scissirostrum mexicana. California Bluebird.
2. Regulus calendula. Ruby-crowned Kinglet.
3. Parus montanus. Rocky Mountain Chickadee.
4. Sitta carolinensis aculeata. Slender-billed Nuthatch; 8;
5. Trochocercus auduboni. - Audubon's Warbler.
6. Trochocercus annectens. Pink-sided Snowbird. First seen near

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1. *Bami* †, where the birds were found in abundance.
2. *Vireo dorsalis*. Red-backed Snowbird.
3. *Hillorus corax carnicorax*. American Kestrel. Found at Camp 6.
4. *Lynnoecitta cyanoccephala*. Maximilian's Nuthatches.
5. *Picicorvus columbianus*. Black's Nuthatches. One was seen on Catron Creek.
6. *Cyanocitta stelleri macrolopha*. Long-eared Jay.
7. *Ceryle alcyon*. Belted Kingfisher. A pair was found at Camp 6 on Catron Creek. They first seen on the trip.
8. *Picus villosus harrisi*. Harris's Woodpecker. Abundant.
9. *Asyndesmus torquatus*. Lewis's Woodpecker. Found feathers at Camp 6 and saw several birds at Camp 7.
10. *Colaptes auratus mexicanus*. Red-shafted Flicker. Common.
11. *Accipiter fasciatus*. Sharp-shinned Hawk. One seen.
12. *Querquedula celsior*. Blue-winged Teal. Several small flocks were seen on Catron Creek; the first were on a small pond at the Mormon ranch on Union Cr.
13. *Scolophaeus cyanocephalus*. Brewer's Blackbird. One flock at the Mormon's ranch on Catron Creek.

We encamped beside the stream near a little ravine in the foot-hills, and, having considerable time after reaching camp, I hunted carefully for specimens and noticed the following:-

The only Mammal was the Rocky Mountain Four-tailed Squirrel (*Sciurus t. grammurus*) whose characteristic hole was heard on all sides in the rocky places at the head of the ravine.

- Birds. - 1. *Tilacula migratoria propinqua* Western Robin.
2. *Regulus calendula*. Ruby-crowned Kinglet.
3. *Tarsus montanus* Rock Wren. Mountain Chickadee.
4. *Ditta carolinensis occidentalis*. Glaucous-billed Luthlet.
5. *Thraupis cinnamomea*. Pink-sided Tanager. Common.
6. *Sturnus dominicus*. Nat-backed Starling.
7. *Dryobates arizonae*. Western Chipping Sparrow.
8. *Lynnoecitta cyanoccephala*. Maxilian's Nuthatches.
9. *Cyanocitta stelleri macrolopha*. Long-eared Jay. As I lay on the ground, listening to the call of some Turkeys that seemed to be approaching, one of these suddenly came within a few feet of me, flying from branch to branch until I could almost touch it as I lay patiently to go asleep. Their curiosity is great!

10. *Aphelocoma woodhousei arizonae*. Arizona Jay. General Crook saw a flock of these birds about his first rode into camp, and I heard their note & when

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25. never seen them since, and was unable to find them this afternoon; but the General told me that we were kept to see plenty of them during the next few days.
11. *Sphyrapicus varius nuchalis*. Nuchal Woodpecker. Not seen in the ravine.
12. *Picoides dorsalis formicivorus*. Californian Woodpecker.
13. *Asyndesmus torquatus*. Lewis's Woodpecker. Common.
14. *Trochilus trochilis*. Mexican Humming Bird. Flying around camp, after dark, while I sat up skinning specimens.
15. *Turkey quail*. Mexican Turkey. Captain Russell shot at a flock, and General Crook brought in a fine specimen. He could have called the flock but had lost his instrument for calling them. Then the one shot, he produced "Quail", with another "caller", made of the wing bones of the Turkey. The sound produced by calling air trembled like bone and very similar to the call of the Turkey.

Later. The Turkey (see Davis's "Conquest of New Mexico") was domesticated by the Aztecs in New Mexico and Arizona.

16. *Columba fasciata*. Band-tailed Pigeon.

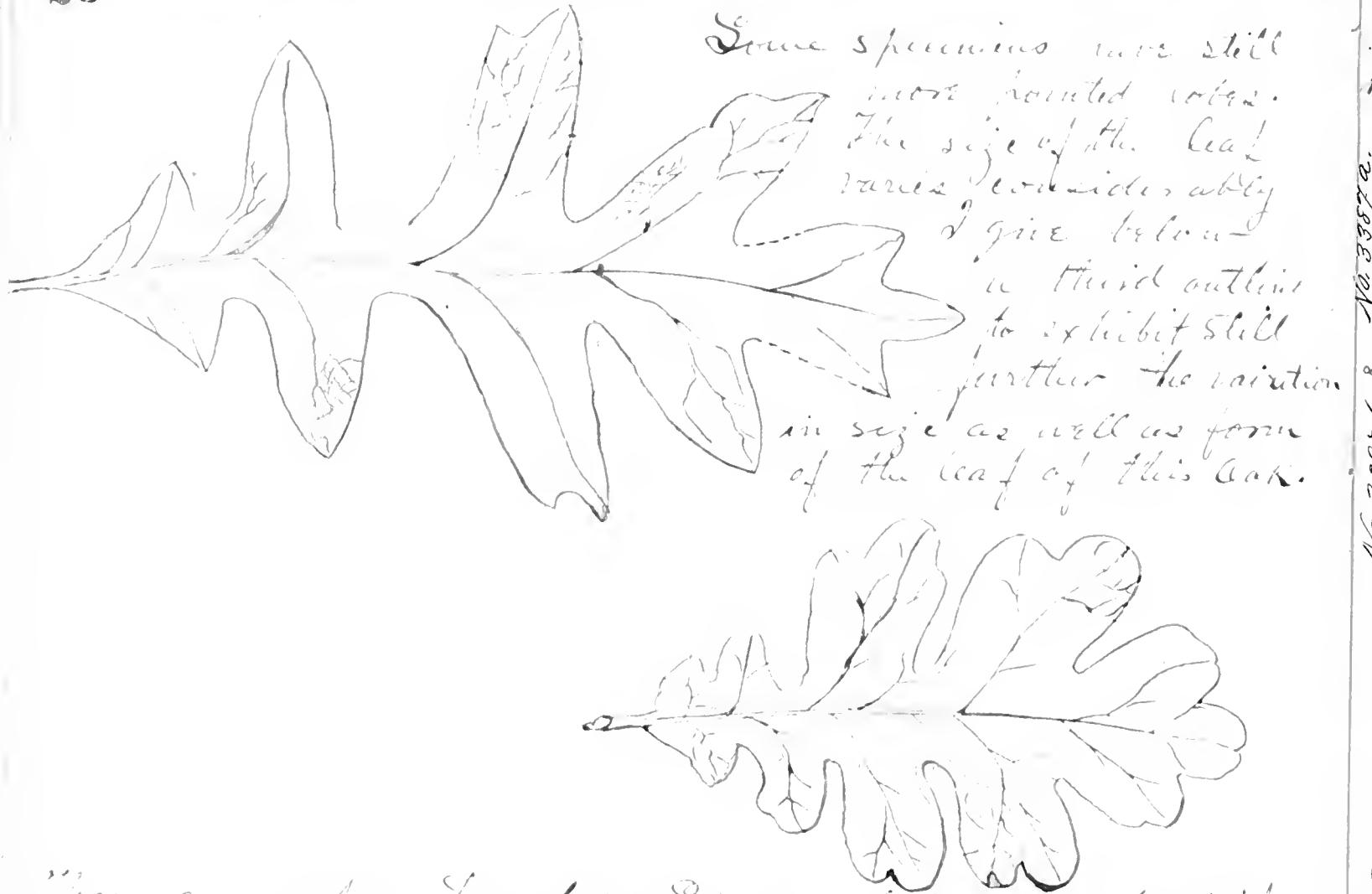
Botany. - A species of *Veratrum* with more slender leaves than *V. viride* grows along the creek at Camp 7. They were also seen in rich, damp savines, between General Springs and our last camp.

A new species of Leek of delicate pink color was first seen to-day on Catron Creek, where we again saw the yellow-parked Miner, which had not been seen before to-day or much since between Mind Lake and Brewer's Butte, the only place where seen by us, before, on this trip.

Oak-tracks of the small-leaved species (such as grows at Whipple) were first seen to-day, as we got down into Tonito Valley. The leaves are small and glaucous. The large leaved oaks were first seen between Camps 2 and 3, when the scrub oak ends, and have been seen at no place ever since.



On outline of the leaf. Another form of leaf is shown on the next page. It varies.

October 7th.

There are a few Douglas's Spices (*Aris douglasii*) ~~in~~^{on} the ravine at Camp 7. None were seen on the trail. A new grape, probably only a local variety (*Vitis* ~~grape~~) grows here. The vine is small, prostrate, with small leaves, and large open bunches of grapes, having a disagreeable flavor, perhaps because not quite ripe. A pretty purple fleabane (*Ageratum*) grows here, and a bright purple Cranesbill (*Geranium*) and some small legumes that are handsome.

The Golden-rods (*Solidago*) are very fine.

The following species were collected:-

No. 140. *Sciurus aberti*. Abert's Pine Squirrel. ♀ ad. Canon Creek, Taos Basin, A. S. Total length, 553; hind and body, 263. From tip of nose to end of tail stretched hind-leg, 443; eye, 28; ear, 54; occiput, 66. Tail to end of vertebral, 210; hairs, 290. Length of snout, 48; of tail, 66. Fore-leg to carpo-metacarpal joint, 54. Hind-leg to tarso-metatarsal joint, 80. Height of ear from crown, 20; from snout, 47; width, 28. Between eyes, 37. Chest-girth, 185. Ear-tufts, 7. Longest fore-claw, 10. Longest hind-claw, 11.

Birds:

No. 3387. *Spizella breweri varius nicholisi*. Red-naped Woodpecker. ♂ ad. 226; 408; 130; 94; culmen, 25; gape, 28; tarsus, 22; middle toe and claw, 22; claw alone, 9. Tides, reddish-hazel. Bill, dusky-pubescent.

October 7th.

- Dimensions of Specimen not preserved at each time:
1. *Trochilus migratoria hirsutana*. Western Robin. No white whitewash on tail. 265; 435; 146; 122. Bill measured from nostril, 14; gape, 28; tarsus, 34; middle toe & claw, 30; claw alone, 7.5. Tides, hazel. Bill, brownish-black, slightly yellow at base of mandible. Legs, feet and claws, brownish-black; bottom of feet, yellowish. Not skinned.
 2. *Zenaidura amoenula*. Pick-sided Snowbird. Ad. 3387. 149; 238; 72; 69; culmen, 11.5; gape, 12.5; tarsus, 20; middle toe and claw, 18; claw alone, 5.5. Tides, hazel. Bill, flesh-color, very slightly tipped with blackish. Tarsi and feet, brown. Claws, dusky. Not skinned.
 3. *Corniculata*. Flycatcher. Ad. 145; 234; 72; 65. Bill measured from nostril, 8; gape, 15; tarsus, 17; middle toe and claw, 14.5; claw alone, 5. Tides, hazel. Bill, brownish-black, with basal 2/3 of mandible pale fleshly-brown. Tarsi, feet and claws, black.

October 8th, 1884. — The command left the fork of Canon Creek soon after daylight, and marched to the Indian village of Gibion Creek, twenty (20) miles. I remained behind to hunt for turkeys and Arizona pheasants. I saw no turkeys, but was successful in getting the Pheasants, and saw a number of interesting mammals and plants. The day's march was the pleasantest one of the trip. The trail was excellent, birds were abundant, and the part of Taos Basin through which we rode was the most beautiful place that I ever saw. It seems little wonder that the Apaches were so brave and fierce in defending their beautiful home against the whites. That required nerve to-day, as all included in the Apache Indian Reservation. The command and pack-train were several hours in advance of the Steamer and myself, and we often stopped to shoot, and to examine plants and other objects of interest.

Some Apaches were seen galloping swiftly down upon us on their tough, wiry little horses as if they meant business. I guided my horse to the right and slipped buckshot cartridges into my gun, and the Indians reined up on my left. They were smiling, fine-looking fellows, and were eager for tobacco and matches with which Steamer Dan obligingly accommodated them. They were on a hunt

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While hunting, I was suddenly surprised by a deep-voiced "Hello!" close at hand, and a naked Apache stepped out from behind a tree close-by, and began talking Apache. I replied "No savvy" and he said it by spoke English, to which he replied "No English" then he laid up four of his fingers and asked "You want Turkey?" (i.e. Turkey-they never do not pronounce K at all). I said "Yes". He asked me to follow him, and I did so until I began to hear him leading me astray or at least out of my way. I desired to go on farther when he shouted very loudly, and I heard the shrill, musical voice of an Indian woman. Then I followed him to a little rise of ground, and found there his hunting camp and family. He wanted me to buy any or all of four nice Turkeys which he had shot with his rifle through the body. I offered him this price ("una raea") (filled as pronounced) meaning one mile or dollar for each Turkey, if he would carry them to our camp ("white-man's camp") I had no money smaller than \$20 notes with me. The Indians seldom ask less than a dollar for anything they have for sale. One dollar is the regular price of a Turkey at Fort Apache, and you pay your money and take your choice. As the distance was too great, the Indian did not come in to camp with the Turkeys, for which I was sorry, as they surely would have been glad to get them. Their field outfit consisted of a number of vessels for carrying water, and large baskets such as they carry corn in for the various articles of food which they gather. The woman had a large quantity of corn, and the ground was covered with the fruit of the Spanish bayonet. She "cussed me out", however, when my horse accidentally stepped upon one and smashed it, and caused me to get away from her larder. They had plenty of deer meat and a number of Jack rabbits. They were a handsome pair of Indians. The man particularly; and he was evidently an excellent hunter, while his wife was without doubt shifty, and a "Bustler" as the Arizonaans say.

As before remarked this day's march was peculiarly pleasant. The country was full of interest and beauty, and

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the trail excellent, while our horses were in good condition for travel. The balmy air, pleasant temperature and beautiful sunlight in the open forest were alone enough to make the ride enjoyable. At length we descended somewhat and began to see a few cedars and rough-barked junipers, and at length a few pines, all of which increased in number rapidly. The large pines were gradually left behind. Then we came out upon the brow of a hill where the Rio and Spanish bayonets and different species of cacti and shrubs usurped the soil; and we could see a wide range of country, hilly, with scattered woodlands chiefly of coniferous trees; and the country was rough, irregular and rocky. An endless number and variety of vegetation was encountered. We crossed a small stream, doubtless a tributary of the Cibecue which contained Cichlid fishes and Leopard Frogs (Rana). For several miles the trail lay over the hills, until we came to the Indian settlement on the heights above the valley of Cibecue, which commands a view of the fertile valley, in the vicinity of the village cultivated extensively. The streams were bordered with beautiful fields of corn and pumpkins. The women were polite in showing us the easiest trail and their voices were extremely musical and pleasant. Some of the girls were quite handsome. The older women ugly as usual. These Indians begged General Crook to be allowed to come here and live on the reservation, which they were allowed to do conditionally, if they would be self-supporting. They are doing nicely, and appear to be very contented and happy, as they all expressed themselves in their falcon with the General. Cibecue Creek contains the "Boing-tail" and several other species of small fishes, and the Leopard Frog (Rana) which we find at Fort Verde in abundance. I caught some specimens of fishes and a Horned Toad (Phrynosoma sp.). Racoons, Blackbirds, Kingfishers and many small birds that are fond of water were seen along the Cibecue; but I already had more birds than could be preserved, and so collected no more of them. The stream contained some deep

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Holes where we enjoyed a bath, and then hurried to the General's tent to listen to the "how-wow". Flicky Free was the interlocutor. He is mixed Irish and greaser, and has always lived with the Apaches, having been captured by them when a child.

On Circle the following list was seen:-

1. Merula migratoria propinqua. Western Robin. Quite common along the march, in small flocks.
2. Sialia mexicana. California Bluebird. Common.
3. Regulus calendula. Ruby-crowned Kinglet.
4. Parus montanus. Mountain Chickadee.
5. Zephronia inornatus. Plain Titmouse. Scarce. Not seen until we got through the pines near our camp (8) on Cibicu Creek, among groves of cedar and junipers.
6. Sitta canadensis albata. Scuder-billed Nuthatch. Common in the pines;
7. Sitta pygmaea. Varied Nuthatch. Common in the pines.
8. Dendroica auduboni. Audubon's Warbler.
9. Pooecetes gramineus confinis. Western Grass Finch.
10. Spizella socialis arizonae. Western Chipping Sparrow.
11. Junco hyemalis annectens. Pink-sided Towhee. A few were seen at Camp 7, gradually growing abundant as we descended during the day while Junco dorsalis decreased as we got out of the pine forest.
12. Junco dorsalis. Red-backed Towhee.
13. Zenaidura macroura. Cineohrys. A few were seen at our last camp on a fork of Canyon Creek.
14. Pitilo maculatus megalonyx. Long-spurred Towhee. A few were seen near our last camp (Camp 7).
15. Corvus corax carunculatus. American Raven. One bird seen.
16. Corvus frugilegus. Common Crow. A few scattered individuals were seen along the way; and a large flock was found in the Indians' corn-fields on Cibicu Creek.
17. Lymnoctita cyanochroa. Maximilian's Nutcracker; Pinon Jay. Enormous flocks of Nutcrackers were seen in the park-like forests of pine. They fly low with loud, plaintive cries, continually alighting upon the ground, the rear hawk constantly rising to the front, and so slowly soaring from place to place. When they meet a Hawk they attack poor Buteo, and raise a frightful din.
18. Cyanocitta stelleri macrolopha. Long-crested Jay. All along the route abundant.

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19. Athelocoma woodhousei. Woodhouse's Jay. One or two were seen at Camp 7, and their number increased all the way to the Gibeon.
 20. Athelocoma sordida arizonae. Arizona Jay. As noted yesterday, a flock of these large Jays was about our Campsite-ground on the left fork of Canyon Creek (Camp 7); but I did not find them last evening. This morning I remained at camp until after the rest all departed and hunted the ravine cautiously and thoroughly, in hopes of finding either the Mexican Wild turkey or Arizona Jay. The result was gratifying, for I saw the Jays in flocks of about half-a-dozen, and watched their actions. The note is the most curious thing about this Jay, of this total it is unlike that of any other Arizona Jay. Their usual cry is an impetuous "Pee-we-we!", while the other notes are modifications of the same notes, uttered separately; and one is more Jay-like, but softer than Woodhouse's. They associate with Steller's Jay and Woodhouse's Jay. One or two flocks were seen during the day between Camp 7 and 8.
 21. Orecoleucus leucurus. Belded Kingfisher. A pair on the Gibeon, where small fishes are abundant, and supply it with suitable food.
 22. Circus villosus varians. Harris's Woodpecker. Only one seen.
 23. McLanerie gominiensis. Californian Woodpecker. Fairly abundant.
 24. Asyndesmus torquatus. Lewis's Woodpecker. Very abundant all along the route. Very difficult to be constantly on the wing, and their flight is quite peculiar.
 25. Sphyrapicus varius nuchalis. Red-headed Woodpecker. This beautiful species was common at Camp 7 and became rarer along the way to the Gibeon.
 26. Colaptes auratus mexicanus. Red-shafted Flicker. Very common.
 27. Puteo borealis calurus. Western Red-tail. A few seen near Camp 8 on Gibeon Creek.
 28. Meleagris gallopavo. Mexican Turkey.
 29. Ardeotis herodias. Great Bustard. Seen on Gibeon Creek.
- The following-named species of Mammals were seen:
1. Sciurus aberti. Abert's Pine Squirrel.
 2. Thomomys talpoides umbrinus. Southern Pocket Gopher.
 3. Spermophilus grammurus. Rocky Mountain Pine-tail Squirrel.

October 8th.

- 30 *T. leucurus texianus* Gray. Tunie Deer. Indians had killed several.
O. Leucurus texianus. Indians caught near the trail were, mounted with parties of mule-deer, turkeys & fresh rabbits.

Specimens collected - Mammals:

- No. 141. *Sciurus aberti*. Abert's Pine Squirrel. ♂ ad. Found between the left fork of canyon creek and Libbie Creek, A.T. Total length, 600. Head and body, 285. Tip of nose to end of stretched hind-foot, 445; to eye, 28; ear, 52; occiput, 66. Tail to end of vertebrae, 235; hair, 315. Fore-arm, 53; fore-foot, 46; longest claw, 11. Leg, 82; hind-foot, 67; claws, 11. Length of ears above crown, 31; above crown, 34; width, 28; ear-trunk, 19. Chest girth, 175.

Birds collected.

- No. 3388. *Aphelocoma woodpecker arizonae*. Arizona Jay. ♀ ad. Left Fork of Canyon Creek, A.T. 230; 517; 105; 152; culmen, 27; eye, 35; tarsus, 45; middle toe and claw, 35; claws, 11; tail, mottled black and yellow. Tarsi, but quend claws, black.

- No. 3389. *Aphelocoma woodpecker arizonae*. Arizona Jay. ♂ ad. Between left fork of Canyon Creek, A.T. 340; 523; 168; 162; culmen, 30; eye, 36; tarsus, 44; middle toe and claw, 36; claws, 11. Colors the same as above.

- No. 3370. *Cyanistes torquatus*. Lewis Woodpecker. ♂ juv. Between canyon creek and Libbie Creek, A.T. 275; 535; 167; 100; culmen, 27; eye, 35; tarsus, 25; middle toe and claw, 32; claws, 11.

- No. 3391. *Acanthiza torquatus*. Lewis Woodpecker. ♂ ad. Between canyon creek and Libbie Creek, A.T. 285; 550; 172; 109; culmen, 35; eye, 35; tarsus, 25; middle toe and claw, 30; claws, 11.
- No. 3392. *Columba fasciata*. Band-tailed Pigeon. ♂ ad. Between Canyon Creek and Libbie Creek, A.T. 365; 635; 207; 140; culmen, 18; eye, 24; tarsus, 29; middle toe and claw, 39; claws, 10. Colors the same as No. 3373.

October 9th 1884. We left camp on Libbie Creek at sunrise and marched to Carrizo Creek, 18 miles. We traversed a rocky, wild region broken by small canons. The trail led through a number of canons and over some cedar-clad hills, whence we had a very fine view of the region, which is rugged and irregular, almost as pleasing in its diversity as the coniferous, talus-covered woodland through which we had been travelling for some days past! A number of new plants and flowers were seen, among them the first *Yucca*. They had serrated leaves (*Dasylirion wheeleri*).

October 9thOctober 9th.

Carrizo Creek, lies in a deep valley, to which we descended a long steep hill, over a fairly good trail. The hill was covered with handsome scrub-oak and rough-barked timber and cedars. The Indian Village is situated upon the margin of the stream. Some of the young men engaged in a game, played with long sticks and rings on the creek, some of the men except a member of the band, a field that Aborigines had of the stream of the Little Egg Creek. It rained during the evening and night. The chief of the band of Indians living on Carrizo Creek told General Grant he was ill and not well enough to talk to him. He concluded that he was bewitched by an Indian who had left ~~Arizona~~ and sought refuge and protection with the Indians on the plateau, where he had seen the fellow and heard his statement to the effect that it had been alleged that we had captured the Carrizo chief and, knowing that they would kill him if he stayed there, he had left Coosa and come to Lebeca to seek retirement until the chief's indisposition was passed.

Mammals observed.

1. *Lepus callotis texianus*. Northern Jackass Hare. Pearce. I shot two and gave them to the soldiers on condition that they should return the skulls. I only preserved one of them, however (No. 352, ♂ ad.)

2. *Thomomys dorsalis*. dorsalis?

Several were seen in open canons. They were most probably variety dorsalis, the California Chipmunk.

3. *Dipodomys grammurus*. Rock Mountain Fox-tailed Squirrel. Several were seen in rocky canons.

4. *Thomomys talpoides umbrinus*. Southern Pocket Gopher. Birds observed.

1. *Myiochanes lucasi auduboni*. Rocky Mountain Hermit Thrush. One seen but was between clouds.

2. *Trochocetes montanus*. Sage Thrasher. I found and one shot.

3. *Psaltriparus mexicanus*. California Bluebird. Found.

4. *Regulus calendula*. Ruby-crowned Kinglet. "

5. *Loxophanes inornatus*. Pine Grosbeak. "

6. *Pitta carolinensis scutellata*. Pewee-vireo. Nested. A few.

7. *Mugialloides townsendi*. Townsend's Solitaire. Several were seen in a little canon. They have a very clear, sweet call-note and were singing exclusively. One that I shot, emulated under some roots in the side of the bank and escaped.

October 9th.

34. 8. Laniocera auduboni. Audubon's Lanius. A few seen.
 9. Piranga ludoviciana. Western Tanager. One was shot;
 found only one seen on the trip.
 10. Vireo cassinii. Western Cassin Finch.
 Common in some spots.
 11. Cuculus
 A few were seen in patches of scrub oaks.
 12. Junco oreganus. Oregon Snowbird. Very abundant.
 13. Spizella domesticus arizonae. Western Chip, King Sparrow.
 14. Pipilo maculatus megalonyx. Long-tailed Towhee.
 Abundant all the way.
 15. Zonotrichia leucophrys. White-crowned Sparrow.
 Found in places.
 16. Astragalairus salteri. Green-backed Goldfinch.
 These pretty birds were eating the seeds of sun flowers and singing.
 17. Aegithus phoeniceus. Red-and-buff-shouldered Blackbird.
 One female was seen beside a little stream.
 18. Scalophaenus cyanocephalus. Siberian Blackbird.
 Large flocks were seen at our camp at Cibicu, and at
 Carrizo Creek a very large flock came down. The tail
 was white. General Leroy and I both tried to shot it,
 but did not succeed.
 19. Corvus corax carnicorus. American Raven.
 Flocks of Ravens were seen all along the way.
 20. Corvus frugivorus. Common Crow. Flocks
 were seen in the corn-fields on Lebeca Creek, and one
 or two were seen en route to and at Carrizo Creek.
 21. Gymnoscitta cyanoocephala. Maximilian's
 Nuthatches. Large flocks, some containing hundreds
 of individuals, were seen all along the trail.
 22. G. G. leucosticta sibylla macrolopha. Long-crested
 Jay. Exceedingly abundant all along the way.
 23. Aphelocoma woodhousei. Woodhouse's Jay.
 Common all the way.
 24. Aphelocoma sordida arizonae. Arizona Jay.
 Abundant all along the way. One was shot with full
 dust shot. It came and alighted in a dry cedar within
 a few feet of me and looked at me intently. I was uttering
 a screeching sound, trying to call some little birds to me.
 25. Picus villosus harrisi. Harris's Woodpecker.
 26. Sphyrapicus varius nuchalis. Red-maple Woodpecker.
 Very abundant.
 27. Melanerpes formicivorus. Californian Woodpecker.
 Abundant.

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28. Asyndesmus torquatus. Lewis's Woodpecker.
 Quite beautiful.
 29. Colaptes auratus mexicanus. Red-shafted Flicker.
 Abundant all the way.
 30. Buteo borealis calurus. Western Red-tail. Several
 pairs seen.
 31. Falco columbarius. Pigeon Hawk. One was seen
 to strike a Flicker. I was riding within a rod of the
 Flicker, when the Hawk dashed it from the branch but
 could not hold fast to it; and the trifid Woodpecker
 flew screaming into the brushwood, with the enemy
 in hot pursuit.
 32. Columba fasciata. Band-tailed Pigeon. In
 flocks numbering from 25 to 100. More abundant
 than hitherto. On the higher they were single or
 in pairs, or fives. In the cedars and junipers
 lower down (yesterday), a few flocks of 5 or 10 were
 seen. So-day there were in large flocks. The timber
 along the route was juniper, "cedar", fir, and a few
 pines and pinon, together with a abundant oak-trees
 both deciduous (like those noted on No. 25) and live oak.
 33. Lophortyx gambeli. Gambel's Quail. One flock
 was seen to-day, between Camps 8 and 9. Captain
 Roberts shot one. These were the first seen since we
 left Cerar Creek, October 2nd; but General Leroy thought
 he heard some just before we reached Cibicu Creek.
 34. Archilochus alexandri. Black-chinned Hummingbird.
 General Leroy saw a female, the only Hummer seen on
 the entire expedition.
 35. Melospiza fasciata
 Long Sparrow.
 A number were found along Carrizo Creek at Camp 9.
 Specimens of Birds Collected:-
 No. 3393. Aphelocoma sordida arizonae. Arizona
 Jay. ♂ ad. Between Lebeca Creek and Carrizo Creek, A. S.
 335; 510; 172; 158; culmen, 30; gape, 36; tarsus,
 41; middle toe and claw, 36; claw, 11.
 No. 3394. Piranga ludoviciana. Western Tanager;
 Crimson-breasted Tanager; Louisiana Tanager, ♂ juv.
 Between Lebeca Creek and Carrizo Creek, A. S.
 185; 296; 92; 72; culmen, 15; nostril, 11; gape, 19;
 tarsus 17.5; middle toe and claw, 17; claw alone, 5.3.
 No. 3395. Asyndesmus torquatus. Lewis's Woodpecker.
 ♂ ad. Between Lebeca Creek and Carrizo Creek, A. S.
 287; 527; 168; 104. culmen, 29.5; gape, 34; tarsus, 28;

October 10th.

Middle tree (i.e. 3rd) and about 30; cedar, 11.

October 10th, 1884. - Marched to Forestdale Indian Settlement, 20 miles. We started late, as it was raining when we awoke, and we did not leave until it cleared. The Carrizo is about the size of Bear Creek which empties into the Verde River about 4 miles south of Fort Verde. Shortly after leaving the Carrizo, we came to a large branch of it called Corduroy, which flows through a deep, beautiful canon, wooded with cottonwoods like those at Fort Verde, and another handsome tree like those in general appearance, but more erect in habit, with narrow lanceolate leaves. Captain Roberts tells me that this is the bottomland of higher altitudes in this country. These were the first "Verde" cottonwoods seen on the trip; but on the mountains, in the pines, we saw groves of medium-sized aspens (Populus tremuloides). The following-named species of Birds were seen: -

1. Throsceloides malashkai auduboni. Rocky Mountain Thrush. One was seen at our camp beside the Carrizo, and one or two more before we reached the Corduroy.

2. Merula migratoria propinqua. Western Robin. One or two near Carrizo Creek.

3. Sialia mexicana. California Bluebird. Common;

4. Myadestes townsendi. Townsend's Solitaire. A few heard singing, in a deep canon, a beautiful song. These are the first I have ever seen alive - these and those of yesterday. They make a whirring sound like a Woodpecker when flying from branch to branch.

5. Regulus calendula. Ruby-crowned Kinglet. A few

6. Trochilus ornatus. Plain Hummingbird. A few were seen in cedars.

7. Sitta pygmaea. Pygmy Nuthatch. None were seen until we reached the pine forest near Forestdale.

8. Sitta carolinensis aculeata. Slender-billed Nuthatch. Three were all I saw during the day.

9. Dendroica auduboni. Audubon's Warbler. Common.

10. Lutreolinus passerinus perlucidus.

A few were startled from the grass beside the trail across the mesa above the Rio Corduroy. Note, a loud "cheep".

11. Zonotrichia leucophrys. White-crowned Sparrow.

12. Spizella breweri virginica. Western Chipping Sparrow. Common.

13. Junco oreganus. Oregon Snowbird. Common.

14. Chonospiza fasciata. Long-tailed Sparrow. Common.

October 10th.

In the mesas beside the Carrizo (the name signifies reed) were a number of these birds:

15. Strix occidentalis pacifica. Green-backed Owl. Large flocks in the creek bottoms at Carrizo, feeding upon seeds of sunflowers; also seen occasionally along the route.

16. Vigil maculatus maculatus. Long-spurred Towhee. Common in places.

17. Corvus cornix. American Raven. Common.

18. Corvus frugilegus. Common Crow. A few on the creek bottom at Carrizo.

19. Deococcus cyanurus cyanocephalus. Brewer's Blackbird. The flock was still at Carrizo. General alarm shot at the white bird, but did not kill the right one, although several others were killed.

20. Lyrurus pictus cyanocephalus. Maximilian's Nut-cracker. Common all the way, but in small flocks.

21. Lyrurus stejnegeri macroura. Long-crested Pigeon. Very common all along the route.

22. Aphelocoma woodhousei. Woodhouse's Jay.

Common until we got on higher ground, out of the cedars and into the pines. I met with an accident when trying to get one of these birds which I shot. It

fell into a canon. I walked up to the edge of it to look down, when a large rock rolled with me, and I went to the bottom. A stone struck me on the head and another on the shoulder; but I received no permanent injury, although I was very sore and stiff.

23. Aphelocoma woodhousei arizonae. Arizona Jay. Several were seen before we left the Corduroy.

24. Picus villosus harrisi. Harris's Woodpecker. A few.

25. Melanerpes formicivorus. California Wood-pecker. Common as soon as we reached the Honey.

26. Asyndesmus torquatus. Lewis's Woodpecker. They were common in the pines, and their notes, when flying in flocks, were like the a Squirrel's.

27. Leiocephalus curvirostris mexicanus. Red-shafted Flicker. Common all the way.

28. Ascalon columbianus. Pigeon Hawk. One was seen near Carrizo Creek.

29. Cystomix montezumae. Micoena Quail; Foolish Quail? The General saw three.

30. Ceryle alcyon. Belted Kingfisher. Several were fishing in the Carrizo.

October 18th.

31. Sayornis sayi. Say's Pewee. One was shot on the meadow above Gordonsburg. As I was picking it up, it flew, and circled about for several minutes, rising higher and higher until it finally disappeared in the distance.
32. Nettion carolinense. Green-winged Teal. One seen of Carrizo Creek.

No Mammals were seen.

Specimens of Birds Collected:

- No. 3396. Asyndesmus torquatus. Lewis's Woodpecker.
♂ ad. Near Forestdale, A. T. 272; 520; 165; 112;
culmen, 27; gape, 33; tarsus, 23; mite., 27; cl., 10.
- No. 3397. Asyndesmus torquatus. Lewis's Woodpecker.
♂ ad. Near Forestdale, A. T. 280; 540; 175; 106; culmen,
29; gape, 35; tarsus, 26; middle toe and claw, 30;
claw alone, 11.

All thank to p. 310,

A Catalogue of Medicinal Plants growing Wild in the Hudson Highlands, N.Y.

By Edgar A. Mearns, M.D.

Assistant Surgeon, U.S.A.

December 10th, 1854.

Note.—The numbers in parenthesis, following the name, refers to the page in the last (fifteenth) edition of the United States Dispensatory, published in 1853, where the plant and its medicinal virtues are treated of.

1. *Clematis Virginica*, L. Common Virginia-vine. (p. 161.)
2. *Anemone nemorosa*, L. Wind-flower; Wood-Anemone. (p. 114.)
3. *Hepatica triloba*, Linné. Round-leaved Hepatica. (p. 160.)
4. *Ranunculus bulbosus*, L. Bulbous Crowfoot; Buttercup. (p. 173.)
5. *Ranunculus acris*, L. Meadowfoot or Buttercup. (p. 183 and 173.)
6. *Cimicifuga racemosa*, Linné. Black Snake-root. (p. 423.)
7. *Liriodendron Tulipifera*, L. Tulip-tree. (p. 1687.)
8. *Uvularia Canadensis*, L. Canadian Moonseed. (pp. 939 and 1614.)
9. *Uvularia thalictroides*, Michx. Blue Cohosh; Purple-root. (p. 380.)
10. *Polygonatum multiflorum*, L. May-flax; Mandrake. (p. 113.)
11. *Nymphaea odorata*, Ait. Sweet-scented Water-Lily. (p. 1711.)
12. *Sarracenia purpurea*, L. Dian-sidde Flower; Pitcher-Plant; Huntsman's cup. (p. 1746.)
13. *Duquiniaria Canadensis*, L. Blood-root. (p. 1266.)
14. *Cuidamia paniculata*, L. Cuckoo-flower. (p. 1597.)
15. *Glycyrrhiza officinalis*, Scop. Honey-root. (p. 1750.)
16. *Viola cucullata*, Ait. Common Blue Violet. (p. 1538.)
17. *Viola odorata*, L. Sweet or English Violet. (p. 1538.)
18. *Viola tricolor*, L. Pansy; Heart's-ease. (p. 1538.)
19. *Filanthus canadense*, Michx. Rock-rose; Frost-weed. (p. 1660.)
20. *Rosera rotundifolia*, L. Round-leaved Sundew. (p. 1656.)
21. *Hypéricum perforatum*, L. Common St. John's-wort. (p. 1666.)
22. *Saponaria officinalis*, L. Common Soapwort; Bouncing Bet. (p. 1745.)
23. *Althaea officinalis*, L. Common Marsh-Mallow. (p. 158.)
24. *Mula rotundifolia*, L. Common Marsh-Mallow. (p. 1671.)
25. *Titanium malibatum*, L. Wild Cranberry. (p. 509.)

26. *Titanium pectinatum*, L. Herb-Robert. (p. 1656.)
27. *Ingratia fulva*, Nutt. Scarlet loosestrife. (p. 1669.)
28. *Cephaelis violacea*, L. Violaceous. (pp. 84 and 171.)
29. *Zanthoxylum americanum*, Miller. Northern Prickly Ash. (p. 1037.)
30. *Rhus glabra*, L. Smooth Sumach. (p. 1844.)
31. *Rhus venenata*, L. Rion Sumach or Poison. (p. 1845.)
32. *Rhus toxicodendron*, L. Poison Ivy; Rhus-toxicodendron. (p. 1245.)
33. *Trapa virginica*, Thunb. Virginia Trap. (p. 1777.)
34. *Linnaea canadensis*, L. Hus-work; Linnaea. Bitter-sweet. (p. 1561 and 1612.)
35. *Orea saccharinum*, Wang. Sugar or Rock Maple. (p. 1256.)
36. *Cayratia tinctoria*, R. 1817. Red Salsify. (p. 1581.)
37. *Cuscuta Americana*, L. Devil's-nest. (p. 1600.)
38. *Cranus Virginianus*, L. Rose-berries. (p. 1142.)
39. *Cranus sylvatica*, Linné. Small-flowered Cranberry. (p. 1143.)
40. *Cranus torulosa*, L. Hardback; Cranberry. (p. 1552.)
41. *Cotentilla canadensis*, L. Common Gingue-fish or Fish-fine. (p. 1749.)
42. *Rubus strigosus*, Michx. Red Buckeye. (p. 1656.)
43. *Rubus occidentalis*, L. Sweet Buckeye; Thimbleberry.
44. *Rubus illosus*, Ait. Common or High Buckeye. (p. 1849.)
45. *Rubus Canadensis*, L. Fox-Buckeye; Buttercup. (p. 1647.)
46. *Dactylago virginicus*, Michx. hairy Salsify. (p. 1728.)
47. *Senecio Americana*, L. Common Seneca-root. (p. 1664.)
48. *Humulus Virginicus*, L. Hops-trail. (p. 155 and 1654.)
49. *Erythronium angustifolium*, L. Gladnow-root. (p. 1638.)
50. *Enothera biennis*, L. Common Evening-Primrose. (p. 1712.)
51. *Zygophyllum Sibiricum*, L. Spurred Goose-trap. (p. 169.)
52. *Zancus carota*, L. Common Carrot. (p. 1598.)
53. *Zizaniella maculata*, L. Spotted Cowpea; Massash Root; Beaver-Poison. (p. 1611.)
54. *Aralia racemosa*, L. Spikenard. (p. 1575.)
55. *Aralia nudicaulis*, L. Wild Sarsaparilla. (p. 1575.)
56. *Leontodon florula*, L. Feverfew & Cowpea. (p. 794.)
57. *Coronilla sericea*, L. Silk-bean; Kinkeeknik. (p. 490.)
58. *Eriostemum perfoliatum*, L. Horse-Saintion. (p. 1770.)
59. *Sambucus Canadensis*, L. Common Elder. (p. 1265.)

60. *Tecomastrum occidentalis*, L. Button-bush. (p. 1603.)
 61. *Mitchella repens*, L. Twinberry. (p. 1700.)
 62. *Eupatorium purpureum*, L. Joe-Pye Weed;
 63. *Eupatorium perfoliatum*, L. Thorntongue-weed;
 64. *Aster laevis*, L. Aster. (p. 569.)
 65. *Solidago bicolor*, L. White Golden-rod. (p. 1751.)
 66. *Solidago Virga-aurea*, L. Mountain Golden-rod.
 (p. 1751.)
 67. *Solidago odora*, Ait. Sweet Golden-rod. (p. 1751.)
 68. *Thunbergia Elegans*, L. Common Eucampione (p. 794.)
 69. *Thunbergia artemisioides*, L. Rosemary Thunbergia;
 70. *Thunbergia bimaculata*, L. Spanish Thunbergia. (p. 1568.)
 71. *Helenium autumnale*, L. Sneeze-weed. (p. 1660.)
 72. *Thlaspi cotyledon*, L. Common Mustard-weed. (p. 934 and 1625.)
 73. *Achillea Millefolium*, L. Common Yarrow or
 Milfoil. (p. 1560.)
 74. *Thlaspi viride*, L. Common Mustard. (p. 1422.)
 75. *Lupinus polycephalus*, Michx. Common
 Everlasting. (p. 1573.)
 76. *Antennaria Margaritacea*, R. Brown. Pearly Everlasting.
 (p. 1573.)
 77. *Crechtites hieracifolia*, Raf. Hierwood. (p. 1638.)
 78. *Senecio sericeus*, L. Silken Ragwort; Squaw-weed.
 (p. 1748.)
 79. *Urtica officinallis*, Allioni. Burdock. (p. 843 and 1632.)
 80. *Lactuca sativa*, L. Lettuce or Chicory. (pp. 1424
 and 1610.)
 81. *Hirculus verosum*, L. Rattlesnake-weed. (p. 1664.)
 82. *Farrucium Zizanioides*, Desv. Common Amaranth.
 (p. 1423.)
 83. *Lobelia cardinalis*, L. Cardinal-flower. (p. 904.)
 84. *Lobelia inflata*, L. Indian Tobacco. (p. 802.)
 85. *Cucumis macrorhizon*, Ait. Large or American
 Cucumber. (p. 1626.)
 86. *Chionanthus retusus*, L. Fruiting Arbutus. (p. 1637.)
 87. *Gaultheria procumbens*, L. Creeping Wintergreen.
 (pp. 98 and 1011.)
 88. *Kalmia latifolia*, L. Gallo-rose; Mountain Laurel;
 Spiken-wood. (p. 1678.)
 89. *Kalmia angustifolia*, L. Sheep Laurel; Lambkill. (p. 1678.)
 90. *Kalmia glauca*, Ait. Pale Laurel. (p. 1678.)

91. *Chionanthus umbellatus*, Nutt. Prince's Pine;
 " *Pipissima*. (p. 400.)
 92. *Chionanthus mucronata*, Nutt. Spotted Laurel. (p. 402.)
 93. *Ilex verticillata*, Gray. Buckthorn; Black Holly. (p. 1191.)
 94. *Catalpa bignonioides*, Nutt. Catalpa; Indian Bean. (p. 1601.)
 95. *Verbascum Thapsus*, L. Common Mullein. (p. 284
 and 1776.)
 96. *Nuria vulgaris*, Tull. Poor-Flax; Butter-and-eggs;
 Ransted. (p. 1573.)
 97. *Chionanthus umbra*, L. Indigo-bush; Shrike-bush. (p. 1604.)
 98. *Zeronia officinalis*, L. Common Spurred-leaf. (p. 1776.)
 99. *Mentha viridis*, L. Green mint. (p. 40.)
 100. *Mentha piperita*, L. Pepper mint. (p. 37.)
 101. *Urtica Thunbergii*, L. Common Urtica. (p. 1628.)
 102. *Coldenia canadensis*, L. Horse-Buckthorn;
 Kick-weed; Stone-root. (p. 1616.)
 103. *Vulpia ciliata*, L. Cat-tail. (p. 1601.)
 104. *Agave Possum* or *ciliata*, L. Common Horned-Tongue.
 (p. 1631.)
 105. *Olesaria Dicentra*, L. Bittersweet. (p. 529.)
 106. *Douglasia nigra*, L. Common Hatcher. (p. 29.)
 107. *Phytolacca acinosa*, L. Ground Cherry. (p. 1726.)
 108. *Datura Stramonium*, L. Thorn-apple. (p. 1363.)
 109. *Thlaspi trifoliate*, L. Buckbean. (p. 1698.)
 110. *Myrsinum elaeagnifolium*, Spindly-leaved. (p. 210.)
 111. *Spodopterum canina*, L. Smilax-bean. (p. 210, 335 and 1473.)
 112. *Asclepias leonuri*, Decne. Common Milkweed
 or Silkweed. (p. 1578.)
 113. *Asclepias incarnata*, L. Swamp Milkweed. (p. 260
 and 1578.)
 114. *Asclepias verticillata*, L. Horned Milkweed
 (p. 1574.)
 115. *Physotricha secundiflora*, L. Common Poke or Seoke;
 Sargent; Pig-on-herb. (p. 1100.)
 116. *Passiflora quadrangularis*, Ves. Passiflora. (p. 1285.)
 117. *Nemopanax fulva*, Michx. Slippery or Red Elm. (p. 1487.)
 118. *Ulmus americana*, L. (p. 1487.) Wild American or
 White Elm. (p. 1487.)
 119. *Ulmus ultra*, L. Red Tulberry. (p. 452.)
 120. *Bullockia cuneata*, L. Butternut. (p. 825.)
 121. *Myrsinace nigra*, L. Black Walnut. (p. 825.)

122. Carya ovata, Nutt. Shell-nut or Big-bell Hickory.
(p. 1599.)
123. Carya glabra, Nutt. Mock-nut; White-heart
Hickory. (p. 1599.)
124. Carya amara, Nutt. Bitter-nut; Spanish Hickory.
(p. 1599.)
125. Quercus alba, L. White Oak. (p. 1204.)
126. Quercus prinoides, L. Chestnut-Oak. (p. 1204.)
127. Quercus coccinea, var. tectoria. Quercitron,
Yellow-barked or Black Oak. (p. 1204.)
128. Castanea vesca, L. Chestnut. (p. 370.)
129. Crataegus rostrata, Nutt. Blanked Hazi-nut. (p. 1624.)
130. Cheilanthes asplenifolia, Nutt. Sweet Fern. (p. 1617.)
131. Betula lenta, L. Cherry Birch; Sweet or Black
Birch. (p. 1587.)
132. Betula alba, var. pumilifolia, Graeh. American
White Birch. (p. 1587, variety alba.)
133. Arium serrulatum, Nutt. Smooth Alder. (p. 1568.)
134. Pinus rigida, Miller. Pitch Pine. (p. 1124 and 1427.)
135. Pinus Strobus, L. White Pine. (p. 1427.)
136. Abies nigra, Voss. Black or Double Spruce. (p. 1427.)
137. Abies Canadensis, Michx. Hemlock Spruce. (p. 1123.)
138. Abies excelsa. Norway Spruce. (p. 1122 and 1427.)
139. Juniperus occidentalis, L. American Arbor-Vita. (p. 1432.)
140. Juniperus communis, var. alpina, L. Common
Juniper. (pp. 826 and 1030.)
141. Juniperus Virginiana, L. Red Cedar. (p. 392,
826 and 1253.)
142. Taxus baccata, L., var. canadensis. American
Yew; Ground Hemlock. (p. 1762.)
143. Arisaema triphyllum, Torr. Indian Turnip. (p. 1577.)
144. Symplocarpus foetidus, Salisb. Skunk Cabbage. (p. 1635.)
145. Acorus Calamus, L. Sweet Flag; Calamus. (p. 311.)
146. Alisma Plantago, L., var. Americanum. American
Water-Plantain. (p. 1567.)
147. Orchis spectabilis, L. Showy Orchis. (p. 1744.)
148. Corallorrhiza odontorkiza, Nutt. Coral-root. (p. 1621.)
149. Cypripedium parviflorum, Salisb. Smaller Yellow
Lady's Slipper. (p. 514.)
150. Cypripedium pubescens, Willd. Larger Yellow
Lady's Slipper. (p. 514.)
151. Cypripedium acaule, Nutt. Stemless Lady's Slipper
or Moth-eater-flower. (p. 514.)

152. Iris versicolor, L. Purple Iris. (p. 819.)
153. Lioscorea villosa, L. Red Yucca-root. (p. 1634.)
154. Limnaea rotundioria, L. Common Green-trail. (p. 1280.)
155. Tillaea crenata, L. Purple Trillium or
Birthroot. (p. 1769 and 1770.)
156. Medeola virginica, L. American Larcher-root.
(p. 9696.)
157. Veratrum viride, Nutt. American White Hellebore;
India Root. (p. 1519 and 1775.)
158. Asparagus officinalis, L. Garden Asparagus.
(p. 1578.)
159. Erythronium americanum, Smith. Yellow
Follier-tongue; Dog's-tooth violet. (p. 1637.)
160. Oriticum repens, L. Couch, Rusted, or Quick-grass.
(p. 1478.)
161. Equisetum hyemale, L. Scouring-Rush; Share-grass.
(p. 1638.)
162. Cyclanthus pedatum, L. Indian hair. (p. 1561.)
163. Pteris aquilina, L. Common Brake. (p. 1680 and 1698.)
164. Asplenium trichomanes, L. Maid-Spiderwort.
(p. 1580.)
165. Asplenium filix-femina, Berna. (p. 262 and 1580.)
166. Aspidium marginal, Swartz. Marginal
Shield Fern. (p. 261.)
167. Lycopodium clavatum, L. Common Club-Moss.
(p. 705.)

Memorandum of Society Memberships:

Elected an Corresponding Member of the Nuttall
Ornithological Club February 4, 1878.

Elected Corresponding Member of the American Society
of New York, on March 16, 1878. Elected an Active
Member.

Became a member and "founder" of the American
Botanical Union on September 26, 1883.

Elected a Member of the Ottawa (Canada) Field
Naturalists' Club December 9, 1880.

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Papilio Dauus, Bd. is the common yellow-
and-black butterfly of Fort Verde, Arizona.

1, (33?)

Lepus callotis

Lepus texianus ♂, 5, 8, 28, 32, 33,

Eriethizon dorsatus epixanthus

Castor fiber canadensis

Dipodomys phillipsi ordi

Thomomys talpoides umbrinus 5, 8, 12, 16, 21, 23, 31, 33,

Sciurus hudsonius fremonti 13, 12, 14, 16, 19

Sciurus aberti 8, 10, 12, 14, 16 (measurements No. 133). 15, 16, 19, 26, 31, 32,

Sciurus arizonensis

Tamias asiaticus quadrivattus 10, 11, 12, 14, 15 (measurements of No. 134), (23?), (33?)

Tamias dorsalis 5, (23?) (33?)

Tamias harrisi ♀

Tamias lateralis

Spermophilus grammurus 24, 31, 33,

Spermophilus tereticaudus

Cynomys columbianus

Mus decumanus

Mus musculus

Dicotyles torquatus

Cervus canadensis ♀,

Cariacus leucurus crooki et mexicanus ♂,

Cariacus macrotis montana 5, 8, 11, 12, 16, 21, 23, 28, 32,

Antilocapra americana ♂,

Ovis montana

Canis familiaris (Indian Dog)

Long-eared Bat

Large Brown Bat

Little Brown Bat

Red Bat, and all other spp.

Sorex

Moles (all spp.)

Felis concolor

Lynx rufus maculatus

Lynx canadensis (or other species than the above)

Bassaris astuta

Canis lupus occidentalis

Canis latrans /2, 15, 21,

Vulpes velox

Urocyon cinereo-argentatus

Gulo luscus

Putorius brasiliensis frenatus

Mephitis mephitica

Mephitis interrupta

Conepatus mapurito

Taxidea americana berlandieri

Lutra canadensis

Procyon hernandezii

Ursus horribilis

Ursus americanus ♂, 12,

Neotoma mexicana

Hesperomys leucopis sonoriensis

Hesperomys leucopis eremicus

Hesperomys leucogaster torridus

Arvicola ?

Sigmodon hispidus arizonae

Fiber zibethicus

Lepus sylvaticus nuttalli

Lepus sylvaticus arizonae ♂,

Papilio Daunus, Bd. is the common yellow-
and-black butterfly of Fort Verde, Arizona.

